

values continue to be displayed. If a keystroke with no numeric secondary value is entered, the numeric values disappear from the screen. If, on the other hand the directory filter produces no results, only the numeric value of the keystroke sequence is displayed.

[0069] Each of these embodiments will be described in more detail below.

[0070] Referring now to Fig. 3A, there is shown a flowchart depicting operation of the present invention according to one embodiment, where a directory filtering operation is initially assumed. Referring also to Fig. 4, there is shown a conceptual block diagram of a functional architecture for implementing the present invention according to one embodiment. One skilled in the art will recognize that the flowchart of Fig. 3A and the block diagram of Fig. 4 are merely exemplary, and that other structures and methods for implementing the invention may be used.

[0071] The user presses keys on keyboard 101 (or provides character input via some other character input device). Upon receipt of such keystroke input 301, the invention adds 302 the value of the pressed key to a stored lookup string. In one embodiment, the lookup string may be initialized as a null string prior to step 301. In one embodiment, step 302 and subsequent steps of Fig. 3A may be performed in response to each individual keystroke. In an alternative embodiment, the invention attempts to perform step 302 and subsequent steps of Fig. 3A in response to each keystroke, but if the user rapidly enters a sequence of keystrokes, the invention may wait until an appropriate pause in the sequence, or

until a predetermined number of keystrokes are received, before proceeding with step 302 and subsequent steps of Fig. 3A. In another alternative embodiment, the invention performs step 302 and subsequent steps of Fig. 3A after completion of a keystroke sequence, or when the user pauses in entering keystrokes, or when the user enters a command specifying that the determination of operation should take place.

[0072] In one embodiment, the lookup string contains primary values of keys (such as alphabetic values, for example). In another embodiment, some coding mechanism is employed to indicate which keys are pressed, so that a coded string is formed that can later be decoded and interpreted as appropriate. If, when step 302 is to be performed, no lookup string yet exists, it may be initialized upon receipt of the first keystroke input 301. Alternatively, a null string may be initialized before commencing the method of Fig. 3A. Once a lookup string has been established, it is stored, for example, in buffer 401 or in any other mechanism for storing strings of data.

[0073] After the stored lookup string has been established or modified by the addition of a new keystroke value in step 302, the invention performs a filtering operation 306 on a stored directory 403, using the lookup string, to obtain a filtered directory set 405. The filtering operation may be performed according to techniques that are well known in the art. For example, the invention may include, in set 405, all directory records having a first name that begins with the lookup string. In one embodiment, the filtering operation 306 is applied to more

than one field of each directory record, or to any combination of stored fields, derived fields, and/or combination fields. Thus, set 405 may include all directory records having a first name, last name, initials, or company name that begins with the lookup string. Any number of fields within directory records may be identified for matching in this manner. Thus, the invention is capable of performing a multiple-field filtering operation, in which the user may enter filtering criteria for any of a number of fields without first specifying which field is to be filtered on. The particulars of multiple-field filtering according to one embodiment are described in more detail below.

[0074] The invention determines 307 whether the filtering operation yielded any results. If the filtered set 405 is not empty, meaning that at least one directory record matches the lookup string, the filtered set 405 is displayed 308 on screen 102. In one embodiment, as will be described in more detail below, set 405 is displayed as a scrolling list, particularly if there are more records than can fit on screen 102. The user can navigate among the displayed records in set 405 and can select individual records for further operation, such as viewing records, modifying records, dialing numbers, and the like.

[0075] Functionality for navigating within a record set and for selecting individual records is implemented, in one embodiment, according to techniques that are well known in the art. For example, the user may navigate using scroll buttons, on-screen buttons, jog controls, and the like; the user may select records by